17. (Once amended) A method of arranging all dies in a multidie device, comprising:

serially stacking said all dies; and

establishing a unique orientation for each die of said all dies, wherein said orientation for said each die defines less than a[n] maximum underlying bond pad clearance.

REMARKS

Claims 7-17 are pending.

Claims 7-17 are rejected.

Claims 9-13 and 16-17 are amended.

The drawings are objected to.

I. Objection to the drawings

Per the Examiner's comments, Applicants are submitting substitute formal drawings to the Draftsperson that include references to elements 58 and 60. For the Examiner's convenience, Applicants have included a redlined copy of these drawings in an appendix to this Amendment and Response.

II. Rejection of claims under 35 U.S.C. 102

The Examiner rejected various groups of claims as being anticipated by one of three patents -- Farnworth (U.S. Patent No. 5,012,323), Sakurai (Japanese Patent 57-31166), or de Givry (European Patent 489,643). Applicants address each reference separately below.

A. Rejection of claims under Farnworth

The Examiner rejected claims 7, 9-11, and 17 as being anticipated by Farnworth. Applicants contend that the relevant claims contain amended or original limitations that are not disclosed in Farnworth.

For instance, claim 7 has always required defining a "minimum" angular offset with mounting an upper die on a lower die. Assuming *arguendo* that Farnworth can be interpreted to teach defining an angular offset, Applicants assert that Farnworth does not disclose a "minimum" angular offset. Claim 9 now requires stacking dies in a manner such that corresponding portions of any two dies define respective axes. These axes, in turn, define an offset angle. Applicants assert that Farnworth is silent concerning these limitations as well. Dependent claims 10 and 11 also benefit from these limitations. The original limitations of claim 17 require establishing a "unique orientation" for each die in a multidie device. Again, Applicants assert that Farnworth is silent concerning this limitation.

B. Rejection of claims under Sakurai

The Examiner rejected claims 7-12 and 17 as being anticipated by Sakurai. Applicants assert that the limitations in amended claim 7, 9, and 17, as addressed above, also serve to distinguish those claims and their dependents from the matters disclosed in Sakurai. Specifically, Sakurai does not address defining a *minimum* angular offset, as required by claims 7 and 8, assuming it manages to disclose any angular offset at all. Further, given Sakurai's requirement of identical chip sizes, bond pad placement, and the direction of shunting each successively higher chip in Sakurai's stack, there is no need for stacking dies in a manner such that corresponding portions of any two of the dies define respective axes which, in turn, define an offset angle (as required by claims 9-11); nor does Sakurai require establishing a "unique orientation" for each die (*see* claim 17). Accordingly, it is not surprising that Sakurai fails to disclose such.

As for claim 12, it now requires *marginally* clearing a line of sight to contact areas of any immediately underlying die with the orientation of each die. Sakurai fails to disclose such marginal clearing.

C. Rejection of claims under de Givry

The Examiner rejected claims 7-9 and 12-17 as being anticipated by de Givry. As in the previous bases for rejection, Applicants contend that the relevant claims in their current state contain limitations that de Givry fails to disclose. As mentioned twice above, claim 7 has always required defining a *minimum* offset with mounting an upper die on a lower die. Claim 8

incorporates this limitation by way of dependency. As mentioned once above, claim 12 now requires *marginally* clearing a line of sight to contact areas of any immediately underlying die with the orientation of each die. An amendment to claim 13 now requires ensuring *at most a minimum* bond pad clearance to each chip of a plurality of chips. Claims 14-16 incorporate this limitation by way of dependency. Claim 17 requires establishing an orientation for each die of a multidie device, wherein the orientation for each die defines *less than a maximum* underlying bond pad clearance.

Significantly, de Givry teaches crossing one chip over another and including additional support structures under the chip ends that extend beyond and are not directly supported by an underlying chip. (*See* de Givry translation at p. 4, ln. 20-21; p. 4, ln. 25; p. 6, ln. 10-15; p. 6, ln. 25-26; p. 7, ln. 22; Figure 1, element 20; Figure 2, element 34; Figure 3, elements 30 and 32.) Applicants assert that not only does de Givry fail to disclose these limitations, but also that the placement of end supports taught by de Givry would actually interfere with carrying out the limitations required by the claims discussed above.

As for claim 9, it now requires ensuring that stacking all of the relevant dies occurs with no intervening bonding step. In support of this claim, Applicants note that the Examiner has not rejected dependent claims 10 and 11 as being anticipated by de Givry. Claim 10 requires stacking all dies before bonding wire to said dies. Claim 11 requires bonding all wire only after stacking all of said dies. Applicants assert that claim 9 is now similarly novel in light of de Givry. Further, because claims 10 and 11 are not rejected based on de Givry, Applicants have amended them to independent form without including this new claim 9 limitation.

CONCLUSION

In light of the above amendments and remarks, Applicant submits that claims 7-17 are allowable over the applied references. Therefore, Applicant respectfully requests reconsideration of the Examiner's rejections and further requests allowance of all of the pending claims. If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact Applicant's undersigned attorney at the number indicated.

Respectfully submitted,

Date: 8/24/00

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Appendix

Redline copy of formal drawings submitted to Draftsperson

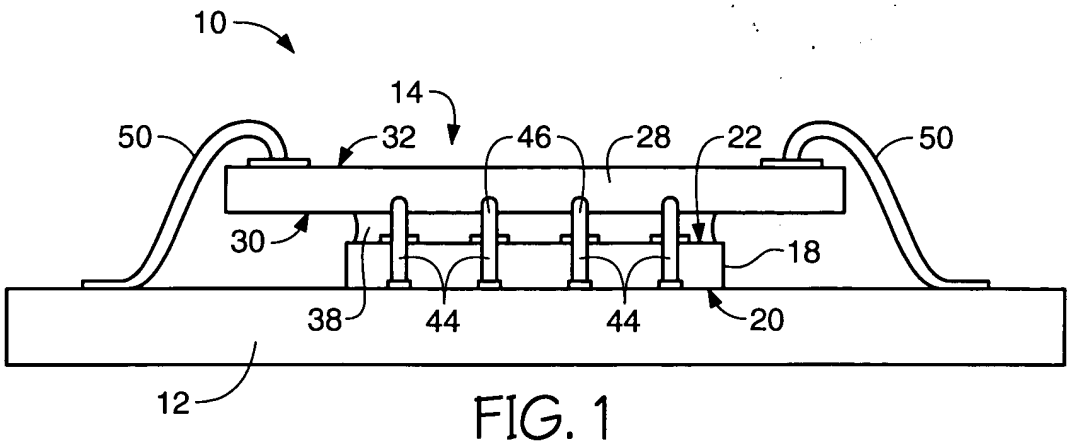

FIG. 1

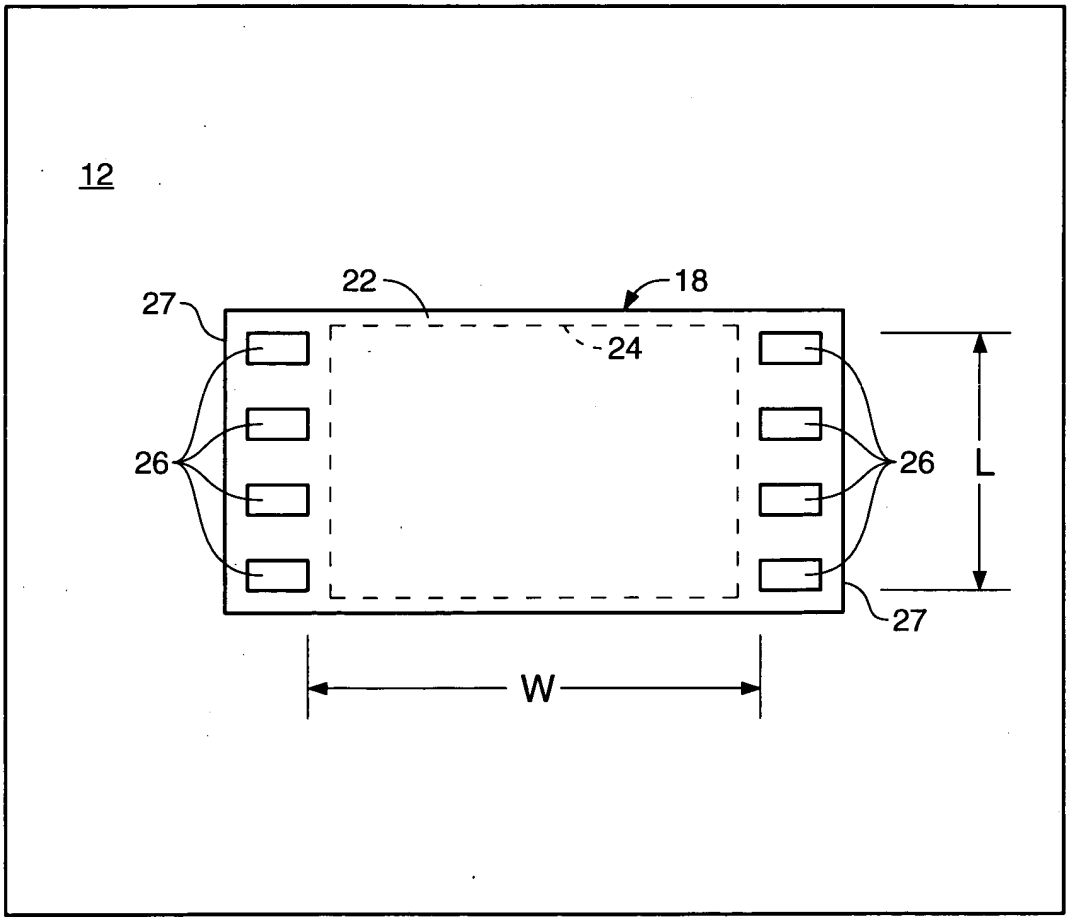

FIG. 2

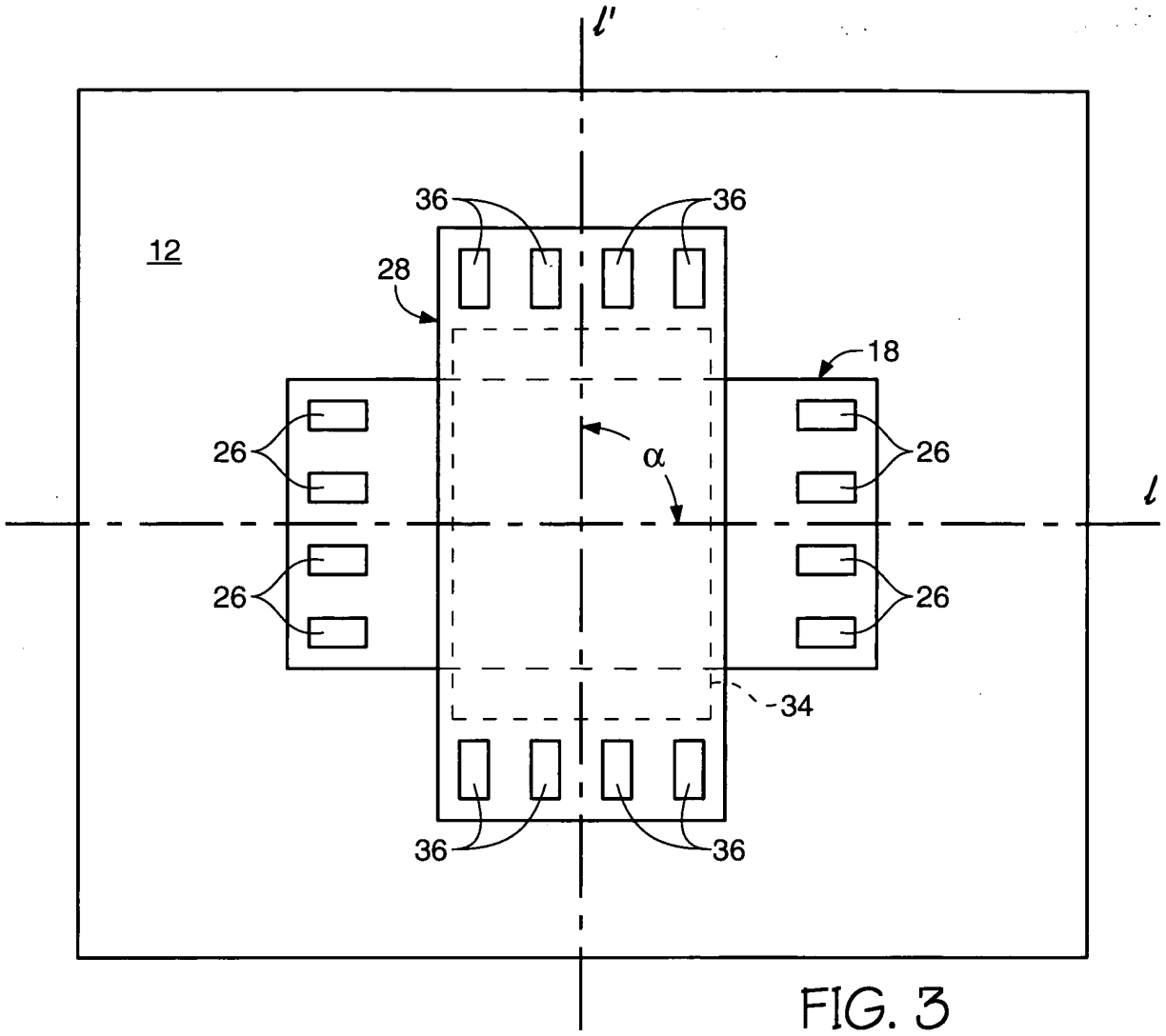
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FIG. 3

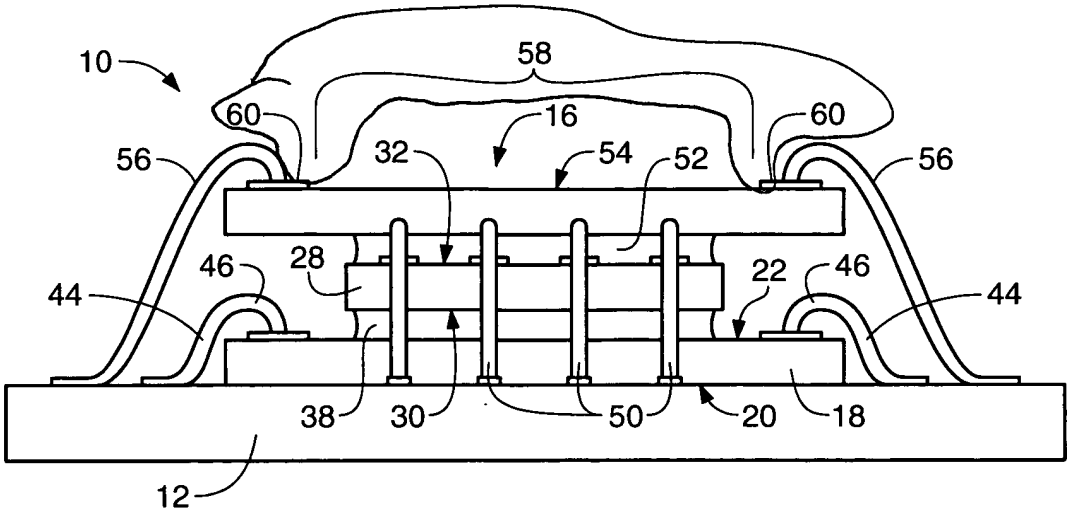
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FIG. 4